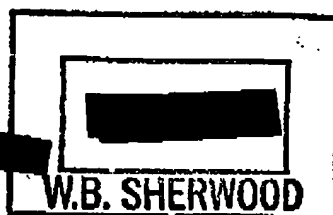


W.B. SHERWOOD
EXPORT CONTROL
NUMBER (ECCN)



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PHILIPS ELECTRONICS NORTH AMERICA CORPORATION**DISCLOSURE OF INVENTION**

THIS DESCRIPTION SHOULD BE SUPPLEMENTED BY ATTACHING COPIES OF RELEVANT DOCUMENTS, SUCH AS PUBLISHED ARTICLES OR PATENTS, PRODUCT BROCHURES, ENGINEERING NOTEBOOK PAGES AND DRAWINGS.

DESCRIPTIVE TITLE OF THE INVENTION: Adaptive memory - Personal FAQ

1. INVENTOR #1: Nevenka Dimitrova SSA/PR Briarcliff
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2. **PRIMARY CONTACT**

Who should CIP contact for further technical information about the invention and information about its planned use or public disclosure?

Inventor Name: _____

3. **PRESENT STAGE OF THE INVENTION**

☒ Idea ☐ Research ☐ Development ☐ Manufacture

4. **GOVERNMENT CONTRACT INVENTION**

Was the invention made under a government contract? ☐ Yes ☒ No

5. **PLEASE PROVIDE A TWO OR THREE SENTENCE SUMMARY OF YOUR INVENTION and include and underline KEY WORDS which might be useful in searching for relevant patents or publications:**

The system remembers a history of user's reactions to certain type of content (say based on clickstream and EPG information, or based on what they watched from a Scout retrieval application) and proactive responses such as actions on augmented content. The system then applies this knowledge to better select augmented content and to serve the augmented content.

6. **PRESENT STATE OF THE ART**

Briefly describe the closest already-known technology that relates to the invention. This would include, for example, already existing products, methods or compositions which are known to you personally or through descriptions in publications.

Presently devices do not memorize long term what type of responses the users give back to the system. Recommender systems infer user profiles, however they do not keep history along with the profile information. Moreover, the recommender systems remember just high level information from EPG.

(ADD LINES AS NECESSARY, IF COMPLETING ON COMPUTER, OR ATTACH ADDITIONAL PAGES)

7. **ADVANCEMENT IN STATE OF THE ART**

Briefly describe the unique advancement achieved by the invention. This may be done, for example, by describing a problem with the prior art that is solved or specific objects that are achieved by the invention.

The adaptive memory system remembers facts (names the user has asked for) the depth of information they have asked on a certain topic and builds a data structure of the user's knowledge base and behavior. The system applies this knowledge when retrieving segments of interest, augmenting video programs and recommending new programs. Also the system can use this knowledge when selecting items for a personal TV channel.

COMPUTER, OR ATTACH ADDITIONAL PAGES)

(ADD LINES AS NECESSARY, IF COMPLETING ON

8. WHAT IS THE BEST WAY YOU KNOW OF TO IMPLEMENT THE INVENTION?

Briefly describe the invention and how it achieves the advancement described in paragraph 7.

The system builds a personal *temporal* ontology that contains classification about world knowledge. The system takes the attributes from a TV program (or a Web page or other electronic source) and infers where to insert them in the temporal ontology. The system remembers the starting time when the user has seen this movie, or inquired about the ending of a political crisis. The system also remembers and keeps track of the intensity of user's interest. For example, if they watched a full movie; if they inquire about presented augmented piece of video on a presidential debate and the candidate on which the user has asked more questions or spent more time. The system performs periodic reconciliation of facts inside the temporal ontology. The system performs inference based on categories and facts. If the user has asked for statistics of a particular football team, the system can infer that user is interested in football. If then the user knows that A implies B and B implies C then system infers that user knows A implies C. Also, the system performs transitive closure type of inferences to see what is an entire area of topics that the user is interested in. The personal temporal ontology gets continuously updated with every user's reaction and action. At regular time intervals the adaptive memory system takes snapshots of the user's interest and saves them separately. These can be used for personal adaptive memory tracking and evolution for the user herself. In general, these can also be used for consumer behavior mining and tracking.

Also, items in the personal ontology change in time. Items that were not tackled for a long period (not related to or not refreshed) can time-out and be "forgotten". Different items can have different refresh rates based on their place in the ontology. On the other hand, each time two or more items are enforced during a single program (movie or news topic), not only that the items are stringer built in the ontology, but the links between the items are enforced as well.

(ADD LINES AS NECESSARY, IF COMPLETING ON COMPUTER, OR ATTACH ADDITIONAL PAGES)

*****PLEASE NOTE: IF WE DECIDE TO FILE AN APPLICATION ON THIS INVENTION, THE ATTORNEY WRITING THE APPLICATION WILL NEED THIS INFORMATION FROM YOU IN AS MUCH DETAIL AS POSSIBLE IN ORDER TO COMPLETE THE APPLICATION.

9. DISCLOSURE OUTSIDE OF PHILIPS

If the invention has been or will be disclosed publicly or to anyone other than a Philips' employee, describe to whom (person / company), when and where.

None

10. PLEASE INDICATE THE PRODUCT OR SERVICE IN WHICH YOUR INVENTION MOST LIKELY WILL BE USED:

INVENTOR #1:

Polymित्रा
Signature

[Redacted]
Date

INVENTOR #2:

Janki
Signature

[Redacted]
Date

| ID ABSTRACT | | | |
|--|-------------------|-----------------------------------|--------------------------|
| ID-number: 702336 | Client reference: | Patent Engineer: HALAJIAN/GATH | To be filled in by GS&S: |
| Inventors: | | ISC: | PS: 02-02 |
| Nevenka Dimitrova | | R7C | PS: |
| Angel Janevski | | R7C | PS: |
| | | | PPManager: |
| | | | A.W.M. Groenendaal |
| Short title: Adaptive Memory – Personal FAQ | | | |
| OS-codes: DV5540 | | ID Date: [REDACTED] | |
| Project code: | | Action code: AC2 | |
| | | Action Code Date: [REDACTED] | |
| <p style="text-align: center;">ABSTRACT</p> <p>An adaptive memory system remembers history of user's reactions and proactive responses, such as based on clickstream, interests such as based on EPG information, and what the user watched. The system also remembers and tracks the intensity of the user's interest. The adaptive memory system applies this knowledge to better select content. The adaptive memory system builds a personal temporal ontology that contains classification about world knowledge, takes attributes from a TV program, for example, and infers where to insert them in the temporal ontology, and performs inference based on category and facts. The system also performs transitive closure type of inferences to see what is an entire area of topic of interest to the user. The system performs periodic reconciliation of facts inside the temporal ontology. At regular intervals, the system takes snapshots of the user's interest and saves them separately for use in tracking and evolution. Items that were not tackled for a long period time-out and are forgotten. Different times can have different refresh rates based on their place in the ontology.</p> | | | |
| (Please return to local GS&S) | | | |

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